

Ser. No. 10/733,510

Amendments to the Claims

1. (Previously presented) An apparatus comprising:
a body having:
first and second faces;
an inboard surface bounding a central aperture;
an outboard perimeter;
an array of bolt holes between the first and second faces;
a channel in the first face inboard of the bolt holes; and
first and second ports in communication with the channel.
2. (Canceled)
3. (Previously presented) The apparatus of claim 1 further comprising:
a sealing ring residing in an outboard portion of the channel.
4. (Original) The apparatus of claim 1 wherein:
the first and second ports are formed in the perimeter.
5. (Original) The apparatus of claim 1 wherein:
the body is a unitary metal member;
the channel is a full annulus; and
a divider member is positioned in the channel between the first and second ports.
6. (Original) The apparatus of claim 1 wherein:
the body is a unitary metal member; and
the channel has:
a full annulus outboard portion; and
a partial annulus second portion of at least 300° of arc.

Ser. No. 10/733,510

7. (Original) The apparatus of claim 1 wherein:
there are at least 8 such bolt holes.
8. (Currently amended) The apparatus of claim 1 in combination with a flow of liquid through the channel and entering the flange body through the first port and exiting the flange body through the second port.
9. (Original) The apparatus of claim 1 in combination with:
a mating flange having a first face in facing relation to the first face of the body; and
a plurality of bolts, each of which extends through an associated one of the bolt holes.
10. (Canceled)
11. (Canceled)
12. (Original) A method for operating a detonative cleaning apparatus for cleaning a surface within a vessel, the method comprising:
repeatedly:
charging a conduit with a charge; and
detonating the charge, resulting in the direction of a shockwave from an outlet portion of the conduit to impact the surface; and
locally cooling a portion of the conduit upstream of the outlet portion.
13. (Original) The method of claim 12 wherein:
the cooling is provided via a cooling fluid;
the cooling is provided at no less than 0.1m upstream of an outlet end of the conduit and at no less than 2m downstream of an upstream end of the conduit; and
the cooling fluid has an essentially constant flow between discharges of the apparatus.
14. (Original) The method of claim 12 wherein:

Ser. No. 10/733,510

the cooling is provided via a cooling fluid; and
the cooling fluid flows along a flowpath nonintersecting with a conduit discharge flowpath.

15. (Previously presented) An apparatus comprising:

a body having:

first and second faces;

an inboard surface bounding a central aperture;

an outboard perimeter;

an array of bolt holes between the first and second faces;

a channel inboard of the bolt holes; and

first and second ports in communication with the channel;

a first conduit having a first flange having an array of bolt holes;

a second conduit having a second flange having an array of bolt holes; and

an array of bolts, each of the bolts extending through:

an associated one of the bolt holes of the first flange;

an associated one of the bolt holes of the second flange; and

an associated one of the bolt holes of the body.

16. (Currently amended) The apparatus of claim 15 in further combination with a flow of an aqueous liquid through the channel and entering the flange body through the first port and exiting the flange body through the second port.

17. (Previously presented) An apparatus comprising:

a unitary metal body having:

first and second faces;

an inboard surface bounding a central aperture;

an outboard perimeter;

an array of bolt holes between the first and second faces;

a channel inboard of the bolt holes and having:

Ser. No. 10/733,510

a full annulus outboard portion; and
a partial annulus second portion of at least 300° of arc; and
first and second ports in communication with the channel.

18. (Previously presented) The apparatus of claim 17 wherein:
the channel is in the first face.
19. (Currently amended) The apparatus of claim ~~19~~ 18 further comprising:
a sealing ring residing in an outboard portion of the channel.
20. (Previously presented) The apparatus of claim 17 wherein:
the first and second ports are formed in the perimeter.
21. (Currently amended) An apparatus comprising:
a body having:
first and second faces;
an inboard surface bounding a central aperture;
an outboard perimeter;
an array of bolt holes between the first and second faces;
a channel inboard of the bolt holes; and
first and second ports formed in the perimeter and in communication with the
channel.
22. (Previously presented) An apparatus comprising:
a unitary metal body having:
first and second faces;
an inboard surface bounding a central aperture;
an outboard perimeter;
an array of bolt holes between the first and second faces;
a full annulus channel inboard of the bolt holes; and

Ser. No. 10/733,510

first and second ports in communication with the channel; and
a divider member, not unitarily formed with the body, is positioned in the channel
between the first and second ports.

23. (Previously presented) An apparatus comprising:

a body having:

- first and second faces;
- an inboard surface bounding a central aperture;
- an outboard perimeter;
- an array of bolt holes between the first and second faces;
- a channel inboard of the bolt holes; and
- first and second ports in communication with the channel;

a furnace having a furnace wall separating a furnace exterior from a furnace interior and
having a wall aperture;

a soot blower outlet assembly positioned to direct a soot blower gas flow through the wall
aperture;

a soot blower gas source; and

one or more soot blower gas conduit portions along a soot blower gas flowpath between
the soot blower gas source and the soot blower outlet assembly, the body also being positioned
along the soot blower gas flowpath.

24. (Previously presented) An apparatus comprising:

a body having:

- first and second faces;
- an inboard surface bounding a central aperture;
- an outboard perimeter;
- an array of bolt holes between the first and second faces;
- a channel inboard of the bolt holes; and
- first and second ports in communication with the channel and not in the inboard
surface; and

Ser. No. 10/733,510

a flow of a liquid entering the first port and exiting the second port and cooling the body.

25. (Previously presented) An apparatus in combination with a vessel, wherein:
the vessel has vessel wall separating a vessel exterior from a vessel interior and having a wall aperture; and
the apparatus comprises:
a body having:
first and second faces;
an inboard surface bounding a central aperture;
an outboard perimeter;
an array of bolt holes between the first and second faces;
a channel inboard of the bolt holes; and
first and second ports in communication with the channel;
an outlet assembly positioned to direct a gas flow through the wall aperture;
a gas source; and
one or more gas conduit portions along a gas flowpath between the gas source and the outlet assembly, the apparatus also being positioned along the gas flowpath.
26. (Previously presented) The combination of claim 25 wherein:
the channel is in the first face.
27. (Previously presented) The combination of claim 25 wherein:
the vessel is a furnace.
28. (Previously presented) The combination of claim 25 wherein:
the outlet assembly extends at least partially through the vessel wall.
29. (Previously presented) The combination of claim 8 wherein:
heat is exchanged from the apparatus to the liquid.

Ser. No. 10/733,510

30. (Previously presented) A method for using the apparatus of claim 1 comprising:
directing a flow of liquid to enter the first port and exit the second port so as to thermally isolate a first conduit section on the first side of the body from a second conduit section on a second side of the body.
31. (New) The apparatus of claim 1 wherein the channel is between the inboard surface and the outboard perimeter.